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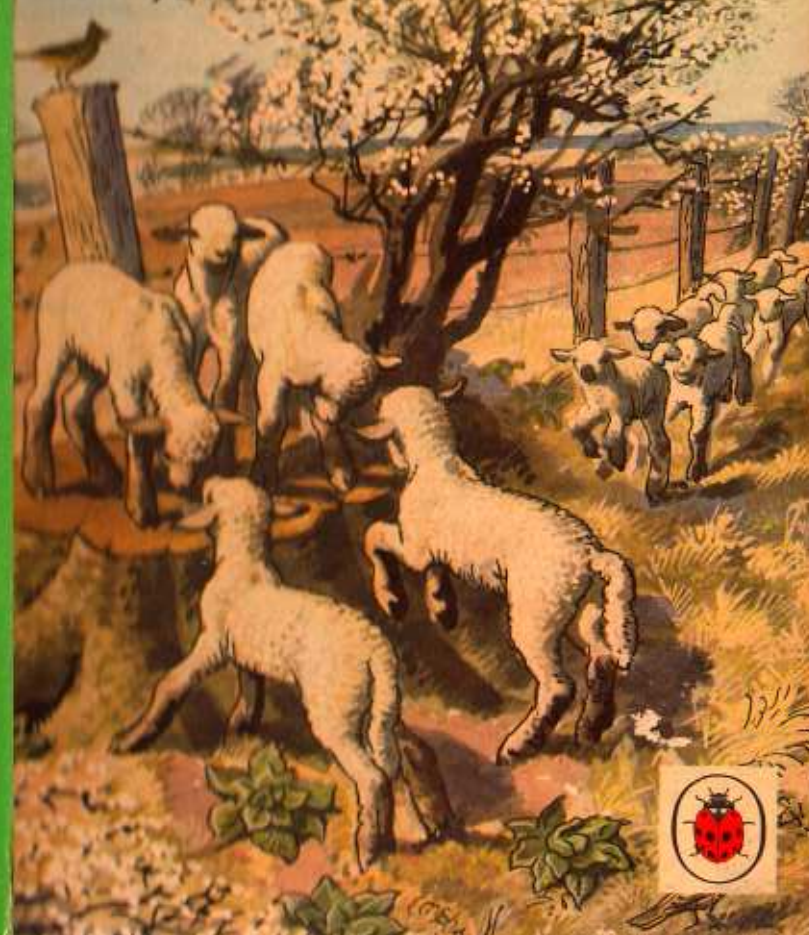
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# WHAT TO LOOK FOR IN SPRING

*A Ladybird Book*





Series 536

*By the end of February many signs of Spring have already appeared and, as the days grow longer, the hearts of country dwellers are stirred to renewed wonder at the swelling of buds and the sight of the early blossoms of hazel, willow, alder and poplar.*

*In March come the violets and celandines, and although the easterly winds often blow strong and cold, we know that March will soon be followed by April—when windows can be opened again, and hedgehogs and dormice can end their hibernation and enjoy the sunshine. With Spring comes the greatest wonder of the year—possibly even more beautiful than Summer.*

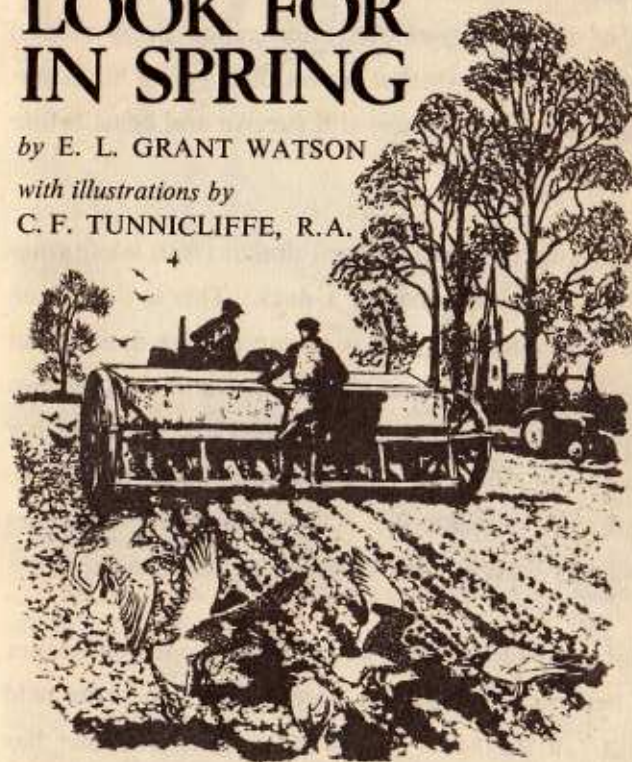


# WHAT TO LOOK FOR IN SPRING

by E. L. GRANT WATSON

with illustrations by

C. F. TUNNICLIFFE, R.A.



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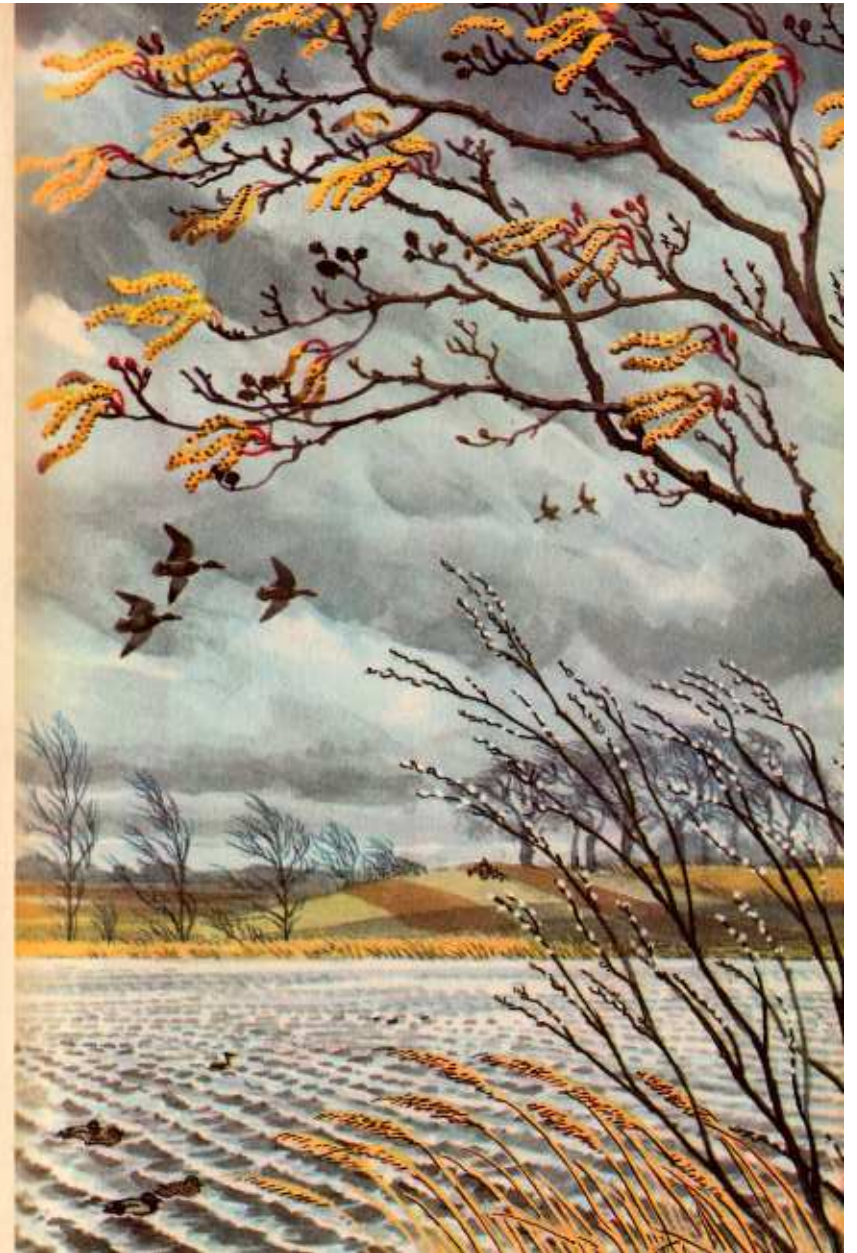


## WHAT TO LOOK FOR IN SPRING

In the first week of March, alder catkins are already streaming in long tassels—scattering their pollen on the east wind. If you look closely at the leafless twigs, you can see the female cones of last year that have by now shed their seeds. Beneath the alder branches, the buds of the sallow-willow (often called pussy-willow) show the silver down that covers their young blossoms. Reed heads of last season still survive and bend before the wind.

Above the lake two mallard drakes (with white rings on their necks) are chasing a duck. This is the season of pairing, and the duck is taking evasive action; but she will soon glide down to the water and then the two suitor drakes will have to decide which is to be her mate. Swimming among the rippling waves are two mated pairs of mallards. A little further behind them—and very small in the picture—is a great-crested grebe.

The wind blows hard, swaying the reeds and bushes and bending the big trees beyond the lake to its cold breath. In the fields on the far hillside a farmer has already ploughed wide strips in last year's stubble.





Violets and coltsfoot are among the first Spring flowers. The coltsfoot flowers arise on long, erect bract-covered stems which often show no signs of leaves at their base, though sometimes small leaves do come early with the flowers. Later, in April, when flowers are faded and seed-heads are white and fluffy, the leaves are large and strong, and make quite a green carpet on the sandy soil which coltsfoot likes so much. These plants spread by underground stems—or rhizomes—and are difficult to get rid of once they get into a garden.

Growing among the roots of the tree are violets and lesser celandine. Dead leaves have gathered here and decayed, giving nourishment to the roots of the violets which like soft humus.

With flirting and jerking of wings, two hedge-sparrows are displaying to each other in a kind of springtime dance. It is a form of love-making. Each bird species has its own particular pattern of display that makes the male and female birds attractive to each other.

Hedge-sparrows are insect eaters, have a very beautiful song, and are near-relatives of robins and nightingales. Although called 'sparrows', they are not near-relatives of the house and tree-sparrows, which are finches and grain eaters.

One of the sparrows stands on a molehill. Moles throw up these 'mole-heaves' at frequent intervals to get rid of the earth from a newly-excavated run.





The elaborate seed sowing machine, which can till twelve drills of wheat at a time, is a far-reaching advance on the earlier hand-scattering of seeds. Hand-sowing was a primitive, though skilful, art—but had some virtues; the grains fell thickly, and the plants that sprang from them gave cover to such birds as the corncrake and stone-curlew, both of which are now becoming almost extinct. With the machine the drills are set evenly apart. The man who stands on the platform makes sure that the seeds are fed evenly into colters, and so led into the drills at an even level.

Blackheaded gulls have gathered to pick up what they can find of the grain that has not been properly earthed, and also any worms or leather-jackets disturbed by the tilling. The two gulls with dark-chocolate coloured heads are in their mature breeding plumage; there are also two with transitional winter-to-summer plumage, while the right-hand gull is a last year's bird.

A pair of lapwings are doing their springtime display — dancing flight of wonderful aerial acrobatics, fluttering and falling like blown leaves, then abruptly rising from their earthward dives. A flock of rooks is descending on the field; they—like the gulls—have come in search of food.

The expanding flower-buds on the elm trees are tinged pink against their dark twigs.





In early March the buds of elm trees are swelling, and rooks are gathered in their rookeries and are rebuilding the nests of last season. Each pair is particular about its own nest, and seems to know and be able to identify every twig. Sometimes a rook will steal a twig from another nest when the rightful owners are absent. The theft is soon discovered; there is a great rumpus, and much cawing and scolding until the missing stick is found in a neighbour's nest. The thief knows it has broken the law of the rookery, and offers no resistance when the rightful owners come to reclaim the stolen property. After justice is done, the fuss and cawing subside.

The rook sitting on the nest is displaying to her mate who is bringing an extra twig, giving him a welcome home. Notice how well his wing-feathers are adapted to his flight.

In the distance a flight of rooks is mobbing a solitary heron. Herons sometimes build their nests in swampy places on tufts of *cirex* grass, but usually nest in colonies in high trees. Occasionally they are too lazy to build their own nests and instead steal rooks' nests, enlarging them for their own use, and—in pairs—driving away the rooks. A heron standing his ground can use his great dagger of a beak far better than he can use it when in flight. The rooks know this, and so they take the opportunity of showing their dislike when they find a solitary heron anywhere near their rookery.

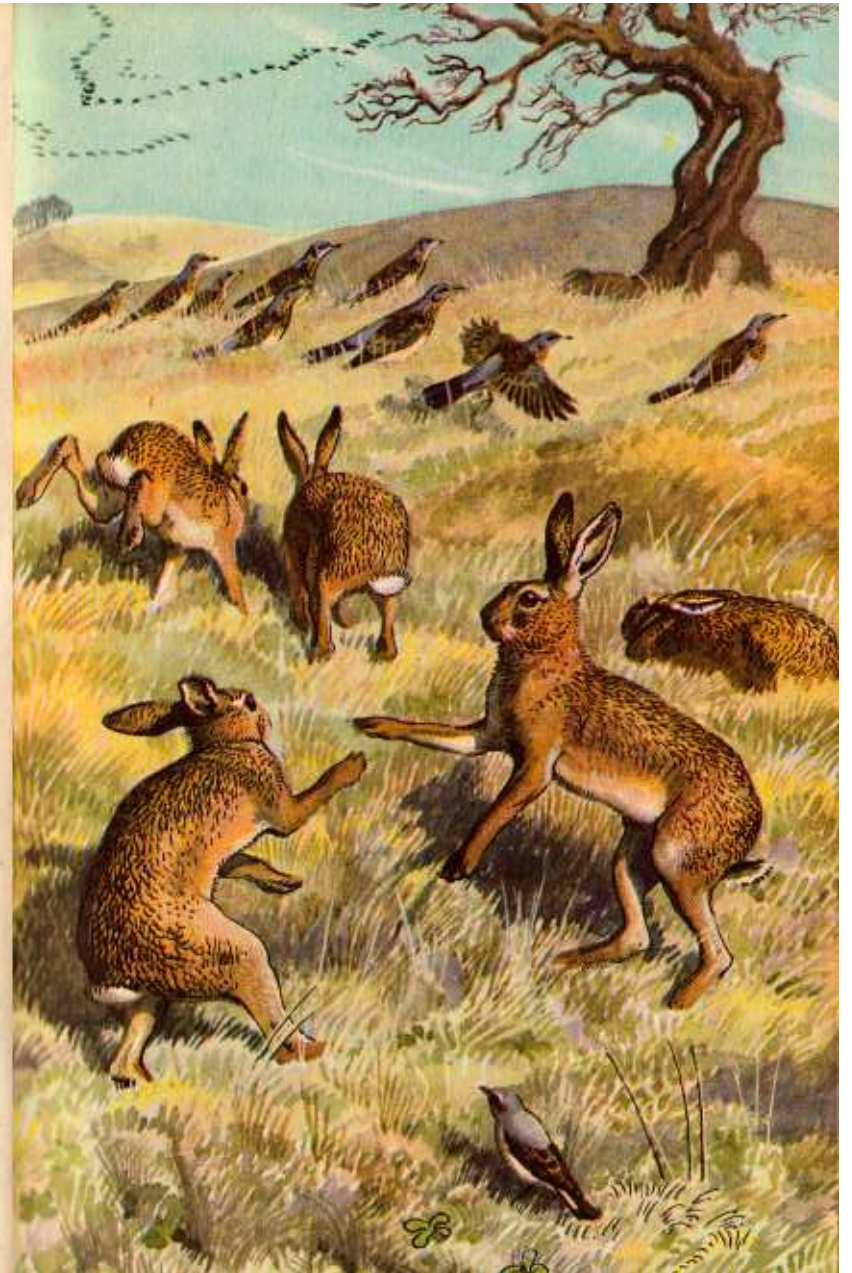




In wild open spaces, on downs or flat marshlands, hares play their springtime mating games. Often they race at full speed, flinging up sprays of dew as they go; then turning, doubling and jumping on each other, shaking free and speeding away again, and usually returning to the same place. Few animals can show the delight of motion better than the hare. If you can sit on some not-too-damp or exposed hillock watching the hares in their March madness, you will enjoy seeing their springtime ecstasy.

Under the stunted, wind-swept hawthorn tree a flock of migrating fieldfares has just alighted. They do not stay for long and soon fly further again. Many bird flocks are on the move; in the far distance over the downland you can see a skein of migrating geese, and in the near foreground is a newly arrived wheatear.

Wheatears can easily be recognized by the patch of white under their tails, which shows as they make their short flights. These birds have a habit of running into holes in the earth, and were once easily captured by shepherds who used to prepare little burrows with wire snares. The wheatear's short flights are accompanied with the call 'chak-chak', and being a companionable sort of bird it will address this even to human beings.





Behind the spray of male sallow-willow, shadows from the further bank of the pool—and from overhanging branches—are reflected on the still surface of the water. The male flowers of the willow are yellow, since the anthers of the flowerets are covered with yellow pollen. The female flowers are greenish-white with pale green forked pistils, and these are fertilized by the pollen grains carried by the wind. Later in the year both male and female catkins give harbourage to a multitude of tiny insects and spiders.

The two male coots are rivals and are hurrying after a female espied in the distance. As a rule coots swim sedately, but when in a hurry they flutter across the surface of the water, using their webbed feet to speed them along. Their feet are not fully webbed like ducks, but the flanges on their toes spread out as they swim, and take the push against the water.

The two great-crested grebes are engaged in their mating display; their ruffs are full spread and their ear-tufts erected. The next gesture to this upright caress will be a backward movement of the neck until the crown nearly touches the back. Great-crested grebes are in some localities called loons, or divers, or gaunts.

The cock reed-bunting on the willow spray is loudly singing his song, which tells his mate that all is well with the world, that this particular part of the pond is *his* territory, and that other cock-birds had better keep away.





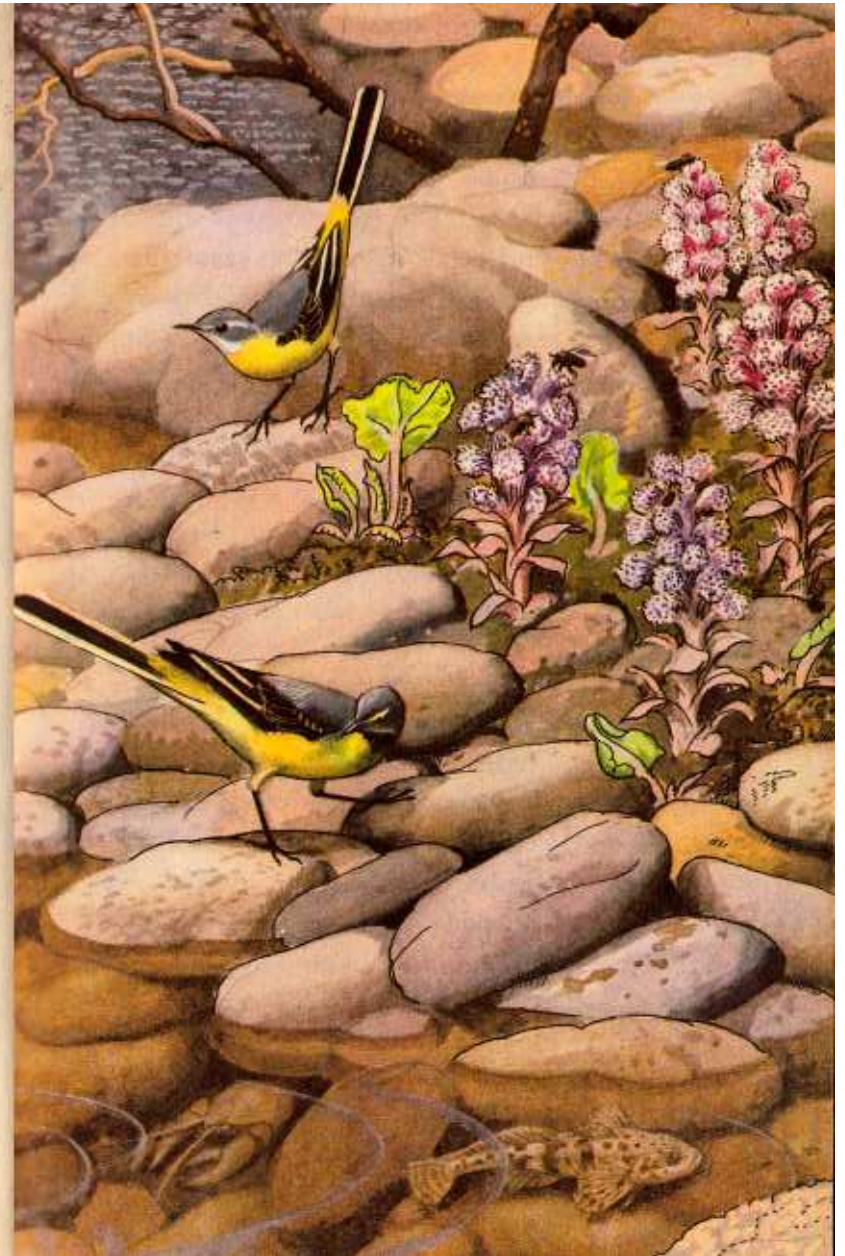
The rhizomes of the winter heliotrope have reached out among the pebbles close to the water, and sent up shoots to flower as late as March. The butterbur begins to blossom as early as November, and is one of the few sweet-smelling flowers we can gather at Christmas.

A couple of grey wagtails are looking as alert and smart as they always do. These birds are often mistaken for yellow wagtails, but can be identified by the fact that they have slate-blue backs compared with the olive-coloured backs of the yellow wagtails. Grey wagtails stay with us all the year, but yellow wagtails are migratory and come to English riversides later in the season.

In the river-water a miller's-thumb has ventured as far as it is able in the shallows, where it can get any of the sun's warmth that can penetrate. Here it is safe from the larger fish that might eat it. Miller's-thumbs are not attractive to look at, but they are common and easily caught. They do not usually live well in an aquarium.

Nearby, under a stone, lurks a creature that is far less common—a fresh-water crayfish. These can only be found in certain streams, and die at once if placed in an aquarium. Crayfish are relatives of lobsters. They live on refuse and any scraps of animal-matter they can pick up.

A few early-flying bees are sucking honey from the flowers of the butterbur.





By the end of March primroses are already coming into flower, and some have found root in the cracks of a decaying tree stump. Usually primroses have five petals, though one can often find blossoms with six or—more rarely—four petals. Sometimes these numbers are doubled, and it is possible to find eight, ten and twelve-petalled specimens among the numerous clumps of five-petalled flowers.

If you look closely you will see that there are two kinds of primrose flowers: one kind has long stamens and a short pistil, and the other has short stamens and a long pistil which reaches to the top of the tube made by the petals and calyx. These two kinds ensure cross-fertilization.

Newly emerged ladybirds are crawling over the bark. They are small beetles and very useful to rose-growers, for they feed on aphids both in their larval and mature state. A female oil-beetle has also come out from her winter retreat. She has a fat, soft body, which is only slightly protected by her hard wing-cases (or elytra), and her real protection is her unpleasant taste.

The elder is one of the first trees to show its leaves. On a branch is a chiff-chaff, the first of the migrants to arrive. Its clear, monotonous notes can hardly be called a song, but it tells us that Spring is on the way.





We view this scene from beneath water-level. At the top is a mass of frogspawn. Each little egg is black to catch the warmth of the springtime sun, and is surrounded by a coat of jelly which offers part protection while the egg matures enough to turn into a tadpole. The strings of eggs wound around the stems of water-weed are toadspawn. Different kinds of toads have different ways of laying their eggs.

These large crested-newts are rarer than the smaller common newts, and are more brightly coloured—the male having an orange belly and the female a pale green one. They are a good catch for an aquarium, where they will live happily enough when fed on worms. Newts are really very queer creatures, and if you look at them long enough you will be filled with wonder.

The fishes are two sticklebacks and, above them, a minnow. For the greater part of the year the male and female sticklebacks are hardly distinguishable, but in the breeding season the male assumes the bright colours shown in the illustration. This change takes place in late March or April.

Beneath the male is a ten-spined stickleback, but this is not so common as the three-spined. Sticklebacks build under-water nests where the female fish sits among her eggs. The males are pugnacious creatures, and need plenty of room. If kept in an aquarium they soon demonstrate the 'survival of the fittest'.





By the first week of April the lambs that were born in February are large enough to enjoy springtime games. The blackthorn is now in full blossom, and at this time of year it is usual to have a cold snap of weather—which reminds us that winter is not so far behind as the opening buds would lead us to believe. This cold spell—with its east winds—is known by countrymen as ‘blackthorn winter’, yet, in spite of the cold, most green plants continue to grow, and you can see how the rosettes of foxglove leaves near the tree-stump are expanding. These are second-year plants, and will be flowering in June. The blackthorn is related to the plum family, and later in the year will bear small, hard plum-like fruits which are bitter to taste, but which are sometimes used to give gin an extra flavour.

From January until April skylarks can be heard singing over meadowlands and downs; they are now thinking about making nests, and soon the hen birds will be laying their eggs. Skylarks nest on the ground, and their nests are not easy to find. This pair have a nest not far away.

A green plover, or lapwing, is making a scrape on the ploughed field beyond the fence. The plover looks small in the distance, but if you look closely you can see it. Lapwings also nest on the open ground.





The plants in the foreground are brook-lime on the left, flag-iris on the right, marsh-marigolds (or king-cups) in the centre, and behind—on the left—young leaves of water plantain.

From the moss-covered old alder stump young leaves are breaking, and close beside the stump there is a wild duck on her nest; see how well her colours blend with her surroundings.

A water-shrew is sniffing around looking for what it can devour. Water-shrews are always hungry, and eat insects, worms or any animal food. They are fierce animals and can attack creatures as large as full-grown frogs, which they do not trouble to kill, but eat alive. A horrid sight! In the springtime water-shrews sometimes sit in twos and threes on a mudflat and sing—which they do very prettily. They can dive and swim well under water, where they hunt for, and devour, caddisfly larvae.

A kingfisher darts past. Having selected his favourite stretch of water, the kingfisher seldom wanders far afield, but may be seen at any time of the year sitting on an overhanging branch, and every now and then flashing down to seize some passing fish.





The larch branch is expanding its young, green leaves which look like small, green shaving brushes. On the twigs are several of the dried cones of last season, and growing in some of the green tufts are the young, pink female flower-cones of this year. The fat, white buds are those of the male flowers, and their pollen fertilizes the female cones. The lower spray is of ash, and on this the flower-buds appear long before the leaves. On the distant hedges you can see the blackthorn bushes in flower.

Two magpies are having an intimate conversation. Magpies rob other birds of their eggs, and are a constant menace to the lives of smaller birds—and even larger birds such as pheasants, partridges and pigeons. Magpies are wily birds and it is extremely difficult to get near enough to shoot them, but many countrymen do so when they can, and feel they have done a good deed. They are justified in this belief, for it is certain that any magpie shot in April will have the egg-yolk of some other bird's egg on its bill.





The moorhen builds her nest of reeds and sticks, which she piles one on top of another, on a mud bank or amid thick clumps of reeds. She makes it high to allow for the possible rise of the pond or lake. Almost before she has finished it the green spearheads of rushes begin to pierce through the nest in search of light and air. The moorhen lines her nest with feathers, and will lay as many as fourteen large eggs, in which the chicks do much of their development before they hatch. As soon as they are hatched they are able to swim and feed. As a rule their mother brings them up the hard way, and five chicks are lucky to survive from a clutch of fourteen. The willow-saplings are breaking into leaf, and the sycamore leaves are escaping from the bracts that have guarded them throughout the winter.

A willow-warbler is singing on a branch, announcing the springtime. Many other migrants have arrived soon after it, including the swallows (with their dark wings and white breasts) and their close relatives—the brown sand-martins. These are all busy hawking the flies above the water. A female swan—often called a pen—is making her nest on the further shore. The male swan is on guard, his raised wings showing that he is ready to attack any boy or dog that might dare to interfere with his mate or her nest.

In the foreground is a newly-arrived sandpiper, and any day now you may hear its whistling cry.





By the third week of April many springtime flowers are blossoming. In a woodland opening we find in the left foreground Adoxa (tuberous moschatel)—which, curiously enough, is a close relative of the ivy; and in the right foreground wood-sorrel, with its pale delicate flowers and clover-shaped leaves that have a sharp taste when you bite them. In the centre are wood-anemones, which spread by underground stems and are consequently all close together. Behind them are wood-violets and (top left) young bluebell shoots.

A bank vole is coming from its burrow. Bank voles are the most mouse-like of all the voles. They do not hibernate in the winter, but remain mostly in their own burrows or in those made by moles, in which they drill smaller holes where they can feel safe from interruption. They are bold, pugnacious creatures for their size, and sometimes kill and eat the short-tailed voles that are as large as themselves.

Although bank voles move about mostly at night, they like to come out in the springtime to sun themselves, as this one is doing. They spend a good deal of time in washing themselves—as do most of the vole family. Bank voles are easily caught, and will live happily enough if given plenty of food and space, but if crowded or hungry they will attack one another. They are very quarrelsome and should be handled with care, for they are always ready to bite.

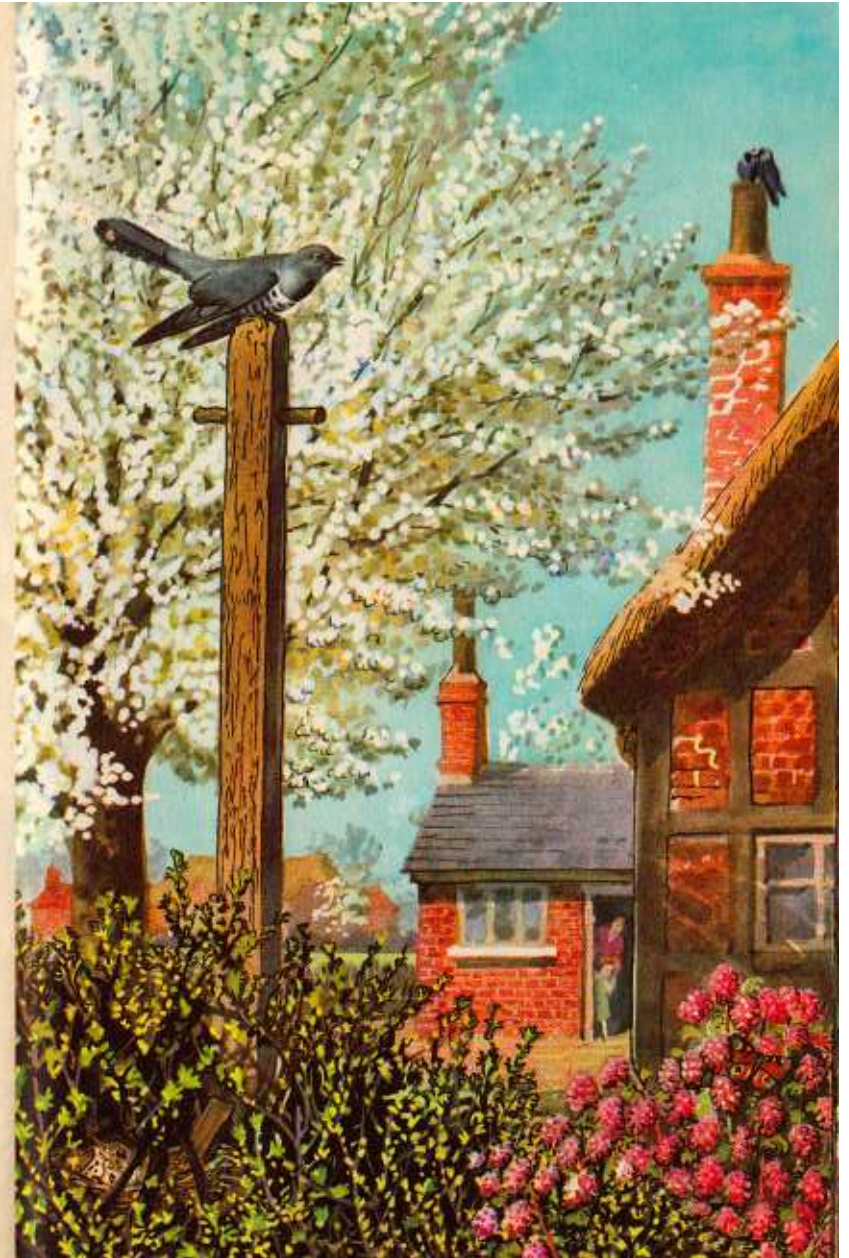




By the end of April the hawthorn is coming into leaf. The cherry is in full blossom, and so, too, is the ribes (or cultivated flowering-currant) which has the same pungent smell as the black-currant. In the hawthorn hedge is a thrush's nest, and the thrush is sitting on her eggs, eyes wide open to notice everything that passes. Although it is interesting to pause and look, and she is very brave and stays on her eggs, we should not remain near too long.

On the top of the washing pole is a cuckoo, giving the call we all know so well. We welcome it as a sure sign that spring has come, but to such little birds as hedge-sparrows, robins, wagtails and pipits (all of which are victimised by the cuckoo) the sound is not so welcome. They know their potential enemy, and often boldly attack. The cuckoo always turns tail and flies away from its small assailant—but not very far; it just waits to see where a nest is being made and then—choosing its time—will deposit an egg in it.

Two jackdaws are sitting on the chimney pot of the cottage, and probably have a nest in it. They can be a great nuisance to householders, as they often drop twigs into chimneys and block them up. They have been known to block a chimney twenty feet deep with sticks, and then build a nest on top of them and rear their young.





In such woodland undergrowth—where bramble, greater-stitchwort and barren strawberries mingle—wrens come in late April to gather moss for their nests. It is the cock-wren who builds the shell of the nest; in fact he builds several shell-nests and then takes his mate to choose which she likes best. A wren has several mates, and each jenny-wren will lay from eight to ten small, pearly eggs. A violet ground beetle is crawling from beneath the barren strawberry.

The bee in this picture is a particularly interesting one, as it closely resembles a true bumble bee (or *Bombex*); it is, however, a cuckoo-bee (or *Psithyrus*), but their close resemblance makes it difficult to tell them apart. The hind-legs of the cuckoo-bee are not so well adapted for gathering pollen, but its body is stronger and slightly larger than that of the bumble-bee.

The cuckoo-bee enters the nest of the true bumble-bee at about the time when the first batch of worker-bees is emerging. At first the behaviour of the intruder is inoffensive, and as time passes the bumble-bee queen grows accustomed to her presence. But when the cuckoo-bee is ready to lay her eggs, she attacks and kills the other queen-bee, being a little stronger and better armed. Then she lays her eggs in the cells that the bumble-bee workers have prepared, and from that time onwards they work for the cuckoo-bee and tend her young—which are not future worker-bees but all potential queen cuckoo-bees.





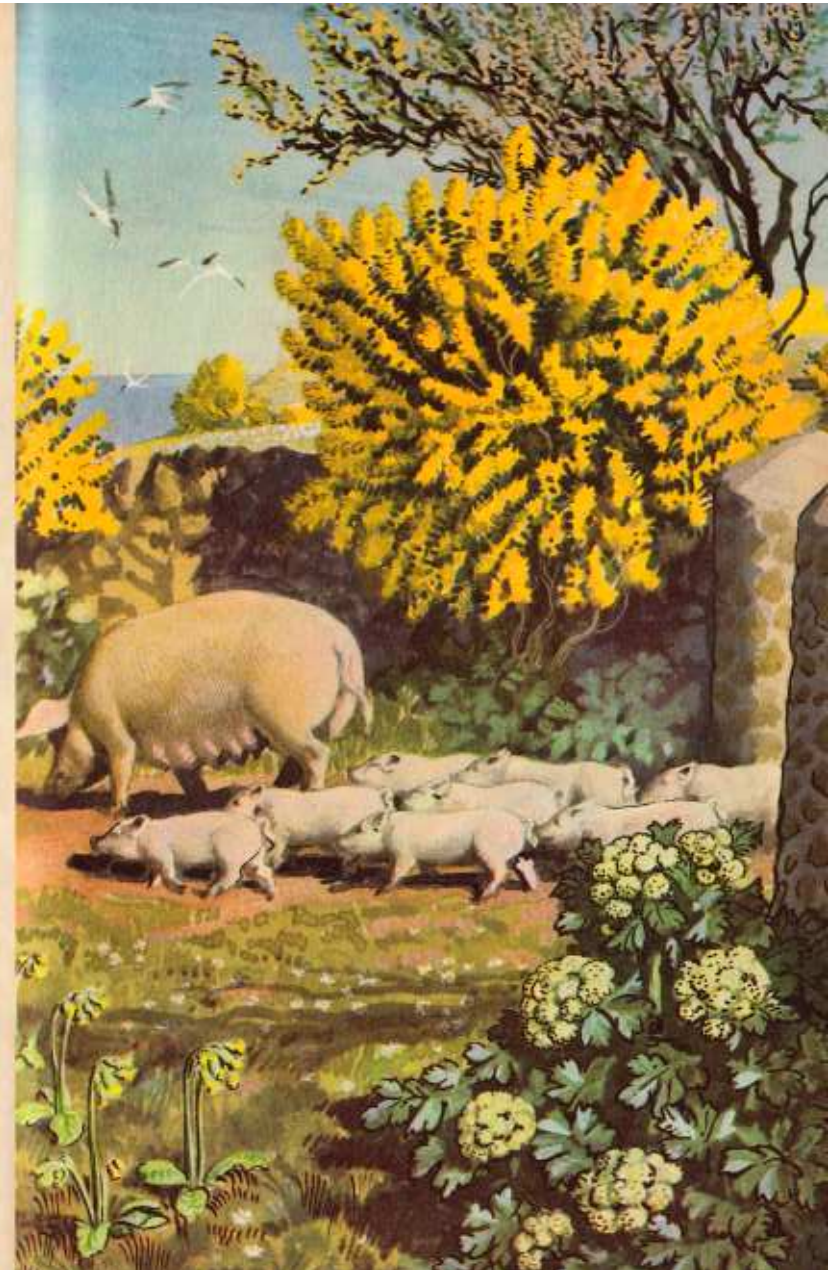
By the first week of May the blossom on the black-thorn has faded and the green foliage is showing. On this headland the boughs have been bent by the prevailing wind. Gorse is in full bloom, and no bush is more sweet-scented than the gorse. In the left foreground daisies and cowslips are growing in the grass. As the poet says:

*"Then came the cowslips,  
Like a dancer in the fair,  
She spread her little mat of green,  
And on it dances she  
With a fillet bound about her brow,  
A fillet round her happy brow,  
A golden fillet round her brow  
And rubies in her hair."*

On the right are Alexanders, with their glossy, bright-green broad leaves and large umbels of greenish-yellow flowers. These plants are closely allied to the hemlocks, and are usually found growing close to the sea.

A sow, followed by her litter of piglets, has just come out of the farmyard into the walled meadow. For a short time they will enjoy their freedom before (alas!) being fattened as porkers.

Above the cliff beyond the meadow, some terns have just arrived after their migration flight. They have black heads, long tails, and black tips to their wings. Terns are easily distinguishable from gulls, as they are considerably smaller and fly almost as well as swallows.





Between the white dead-nettle and the blue bugle blossoms is a half-hidden partridge's nest. Both bugle and dead-nettle are flowers rich in honey, the bugle in particular being visited by bees, bumble-bees, bee-hawk moths and other insects that hover and dart over the flowers.

The wild arum (sometimes called cuckoo-pint or lords-and-ladies) is a strange plant. Within the pale-green expanding sheath the upper part of the spadex is a dark-purple or pale pink. This spadex has a temperature rather higher than the surrounding air, and also a peculiar smell. Flies are tempted to come and warm their feet, and then crawl down the spadex past a ring of short threads which prevent them from crawling back. Inside the bulb of the sheath they stay for some time, carrying the pollen from the anthers to the pistils of the female flowers that are at the base of the spadex.

Bracken fronds are uncurling in the distance. The caterpillar on the leaf of the dead-nettle will, in June, become a yellow-underwing moth. On the leaf of the arum is a caterpillar of a tiger moth. It does not eat the arum leaves, but, having fed on dock, is on its way to find a suitable place to spin-up and make its cocoon. Like the yellow-underwing it will emerge in its mature state in June: a most lovely and exciting moth.

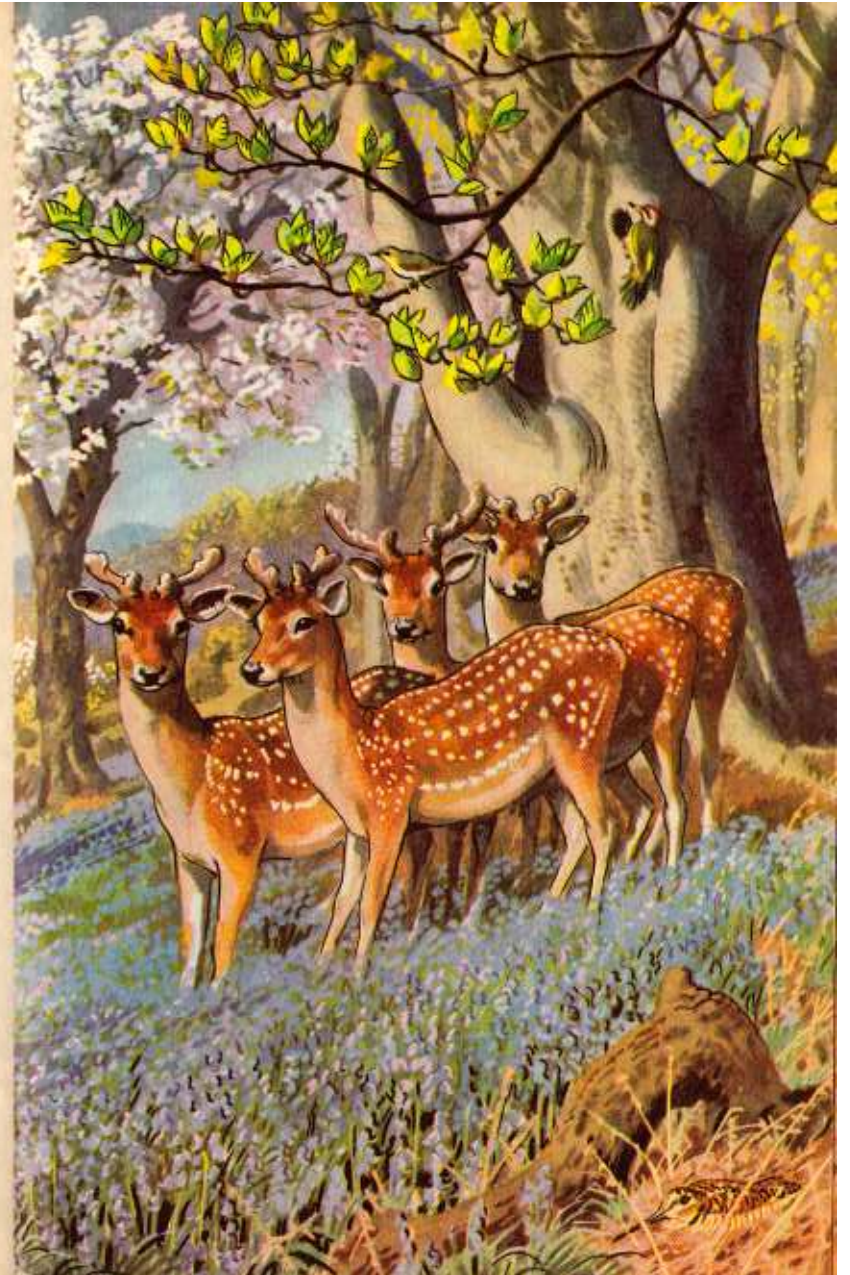




Fallow deer live in a semi-wild state in many parts of England. They were introduced by the Romans. As a rule deer frequent the thickest cover they can find, and roam about feeding. You may be lucky enough to see one in a forest or heathland, but deer are shy animals and not easy to approach. These four under the beech tree are all bucks; three of them in their third year and one in its fourth. These have dropped their horns and are growing new ones. The young horns are covered with a mossy, fleshy substance which rubs off and leaves the horn hard and bony. In May, when the bracken is tall enough to hide them, the fawns are born. Their mothers guard them, and the young bucks keep together in small parties of three or four.

Wild hyacinths (or bluebells) are blue underfoot, looking like patches of reflected sky. By this time the nightingale should be singing, and most of the migrant birds are here and making their nests.

A woodcock is sitting close on her eggs beside the fallen branch, and on the beech tree bole a green woodpecker (or yaffle) is just about to enter its hole. On the beech twig is a wood-warbler, a difficult bird to spot, and one which is most easily seen between the time of its arrival and the time when leaves are only half-expanded. In the background a crab-apple is in bloom.





Into the shallow water at the edge of the lake, some large-sized bream have come to lay their eggs. They rub themselves against the mud, and so squeeze out the eggs or sperm. Like most other fish that have evenly-divided tails, the fertilization takes place in the water. Stirred to excitement by the mating season, they often jump out of the water and splash.

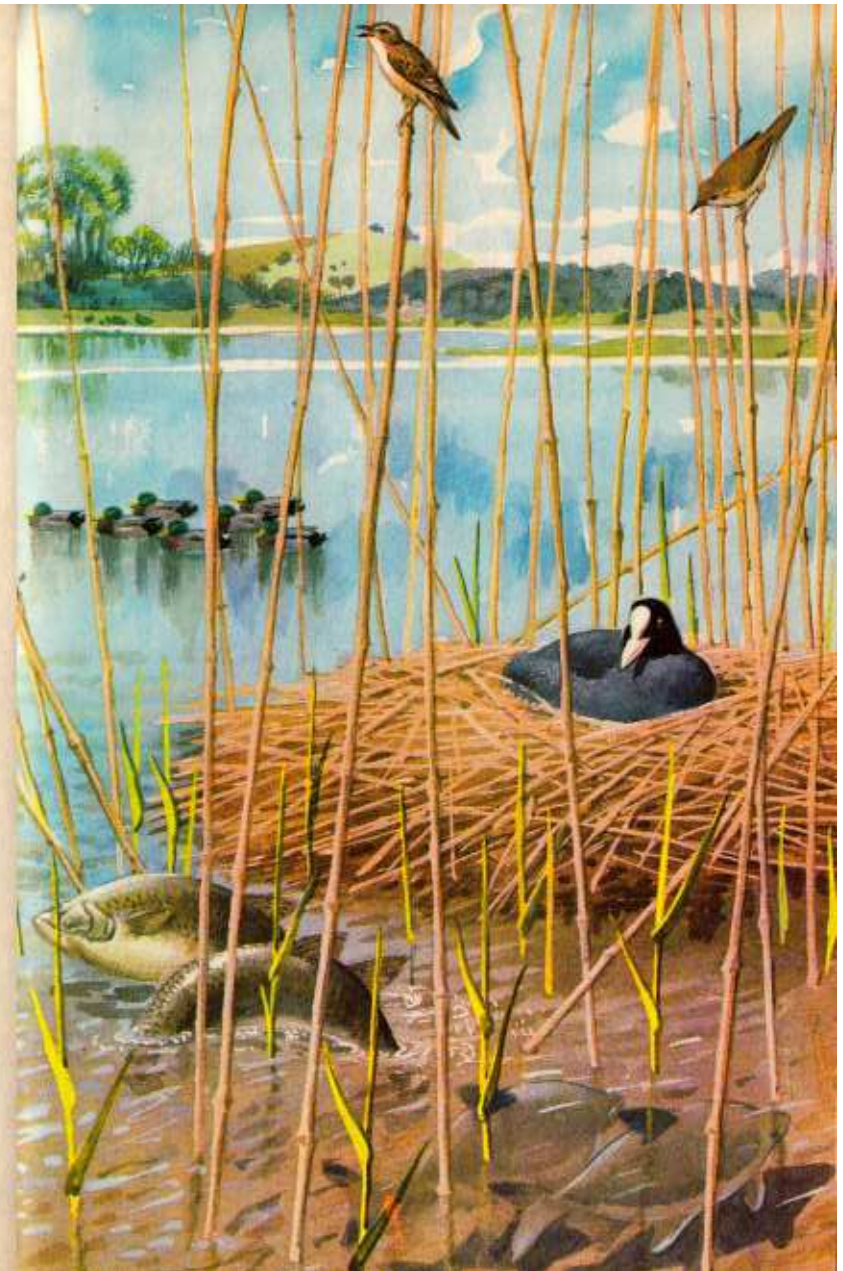
The coot sits on her nest, which she and her mate have made with pieces of reed stems. She does not take any notice of the bream, which are too large for her to eat, but she would be interested in smaller fish.

On the right is a reed-warbler, which is often only a passing visitor in England. It is distinguishable from the sedge-warbler (in the centre) by the absence of the eye-stripe and the sedge-warbler's dark, spotted back. The reed-warbler's song is a mixture of sweet and harsh notes, neither so varied nor so loud as the song of the sedge-warbler.

Sometimes the reed-warbler will nest in England, but not in the west country. When the young reeds are tall enough the reed-warbler makes its nest among them, and, as the reeds grow, the nest rises also.

The sedge-warbler is a much commoner bird. It has a varied song and sings frequently at night—when its song is sometimes mistaken for a nightingale's. It nests near the ground in thick and tangled herbage.

A bachelor party of drake mallards is swimming on the lake.





The mare and her foal are in a lovely place on a lovely day, and have the best month of the year in which to stray at their own sweet will.

The hawthorn is in full blossom both on the tree and hedge, and on the distant hedges. The tree in the distance is a whitebeam, with young grey leaves that look almost like blossoms. Bracken shoots are beginning to rise from the dead leaves of last year, and to uncurl their fronds. In the foreground are flowers of early purple orchids, and behind them flowers of lady's smock—sometimes called milkmaids.

A green plover (or lapwing) is in charge of her young chicks. As soon as they are hatched, the chicks are able to take care of themselves, though—of course—they cannot fly. The chicks run surprisingly fast, and are very obedient. If anything comes to frighten the mother she gives the command to lie low and freeze, and herself flies up and does all she can to lead the danger away from her chicks. If a dog has caused the alarm, the green plover will flap along the ground pretending to have a broken wing, and so will tempt the dog away. But to-day everything is calm and the chicks are free to go as they will.





Brown trout are jumping at the mayflies that are dancing away their short lives above the river's surface. As perfect insects they live but a few hours, only long enough to mate while on the wing and then lay their eggs. Their's is a case of natural death, for a mayfly's mouth and gut do not properly join up, and so it has no means of living. However, a mayfly does live for quite a long time in the larval and nymph stages, either in the water of swift-flowing streams or in the mud at the bottom of shallow water. The swarming of mayflies on calm, warm days is a sight well-known to all countrymen.

The many changes in the life history of the mayfly are extremely interesting. The nymph comes to the surface and transforms into what is called the sub-imago stage—as those in the water on the right. Now in its second phase it flies to a reed-stem. The third stage is shown by the insect emerging from its second phase: the 'grey-drake' mayfly from the 'green-drake'. On the green leaf at the top left, the grey-drake is free of the green-drake phase, and is about to join the others in the dance. After all these complicated changes, a large number are eaten by fish or birds. Such is one of the many mysterious wonders of nature.

The plant in the foreground is the water crowfoot, with its green, floating leaves, erect flower-heads and submerged roots.





By the end of May the horse-chestnut is in full blossom and the finger-like leaves are expanded. A turtle-dove, which is a summer migrant and quite different from the wood-pigeon, is sitting on one of the branches.

Numerous swifts, also newly arrived, are circling about the church tower. They often make their nests on old buildings. When the swifts arrive, late in May, they come screeching in shore, and are sometimes called 'screechers' by countrymen. They are rightly named 'swifts', for their flight *is* exceedingly swift. They are made for the air, and should one by chance fall to earth it has great difficulty in taking-off again—due to the shortness of its legs and the length of its tapered wings.

When the nests are made, and the long, thin white eggs are laid, the female swifts are reluctant to begin incubation. The male swifts drive them on to their nests; then, they themselves continue to fly sweepingly about the sky.

It is believed that when twilight turns to darkness, swifts rise higher and higher into the air, and there sleep on the wing—flying by sheer force of habit. However, some have been known to roost under eaves, and occasionally in trees.





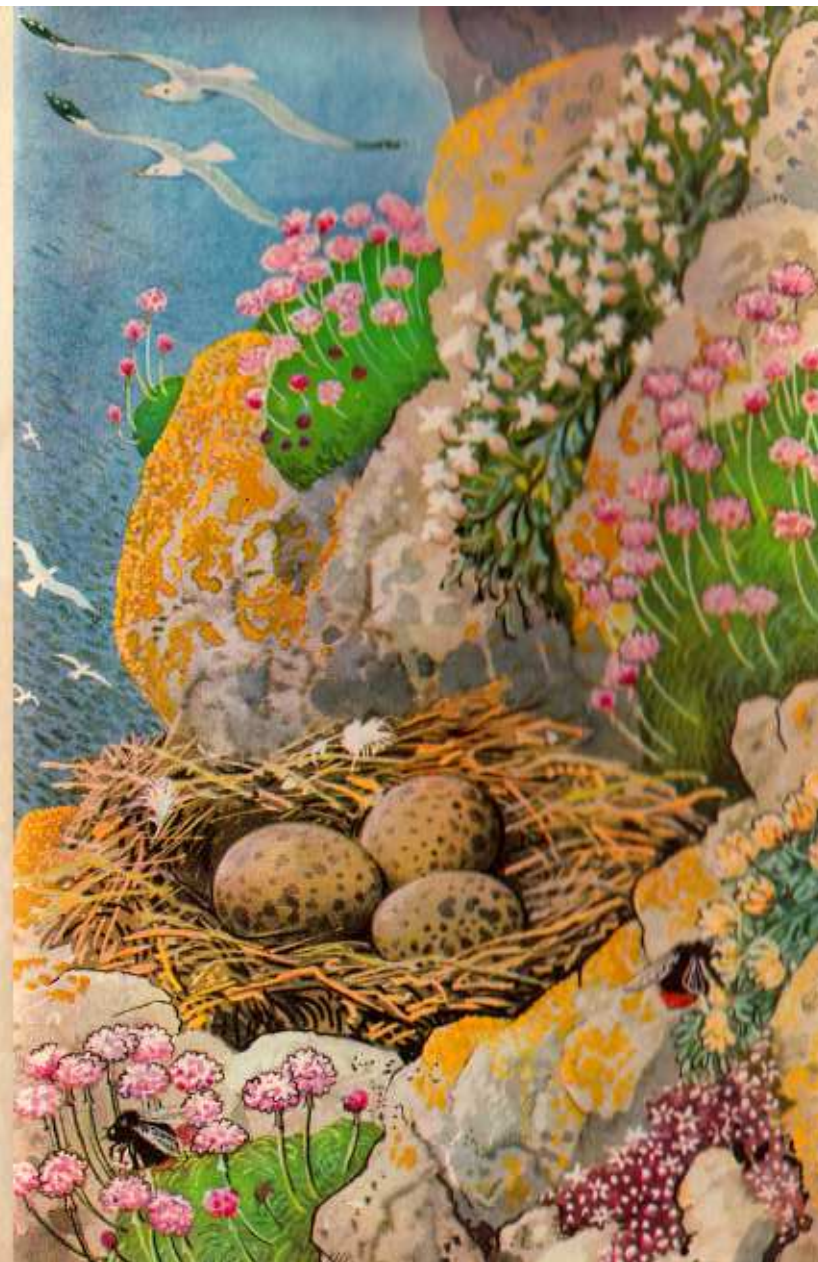
Herring gulls build their nests in inaccessible places on cliff-tops, often in a group fairly close together. On cliff-faces, or on isolated islets, they are safe from egg-collectors who take their eggs and sell them, for gull's eggs are good to eat.

The cliff-top is at its most beautiful in May. Sea-pink (bottom left), white sea-campion (top right), the white flowered stonecrop (bottom right) and (above it) the kidney vetch—all these flourish best in sea-breezes and all are in blossom. Yellow-flowered stonecrop blooms later in June and July.

On the sea-pink is a red-tailed bumble-bee, the sort that makes a nest and rears the first brood of workers. On the vetch is a cuckoo-bee that closely resembles the red-tailed bumble-bee. You can see that the cuckoo-bee is just a little larger. (If you have forgotten about the cuckoo-bees, refer back to page 34). Each species of bumble-bee has its own cuckoo-bee that closely resembles it.

On the boulders are various kinds of lichens, tiny colonies of fungi that hold, within their threads, cells of algae; each helps the other in this efficient partnership.

The herring-gulls are planing and swooping in their amazing flight about the cliff face. Their necks, heads, wings and tails are so marvellously adapted to disperse the air-currents in just the right way that even an eighth-of-an-inch collar of cardboard fastened around their necks would make them unable to fly.





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